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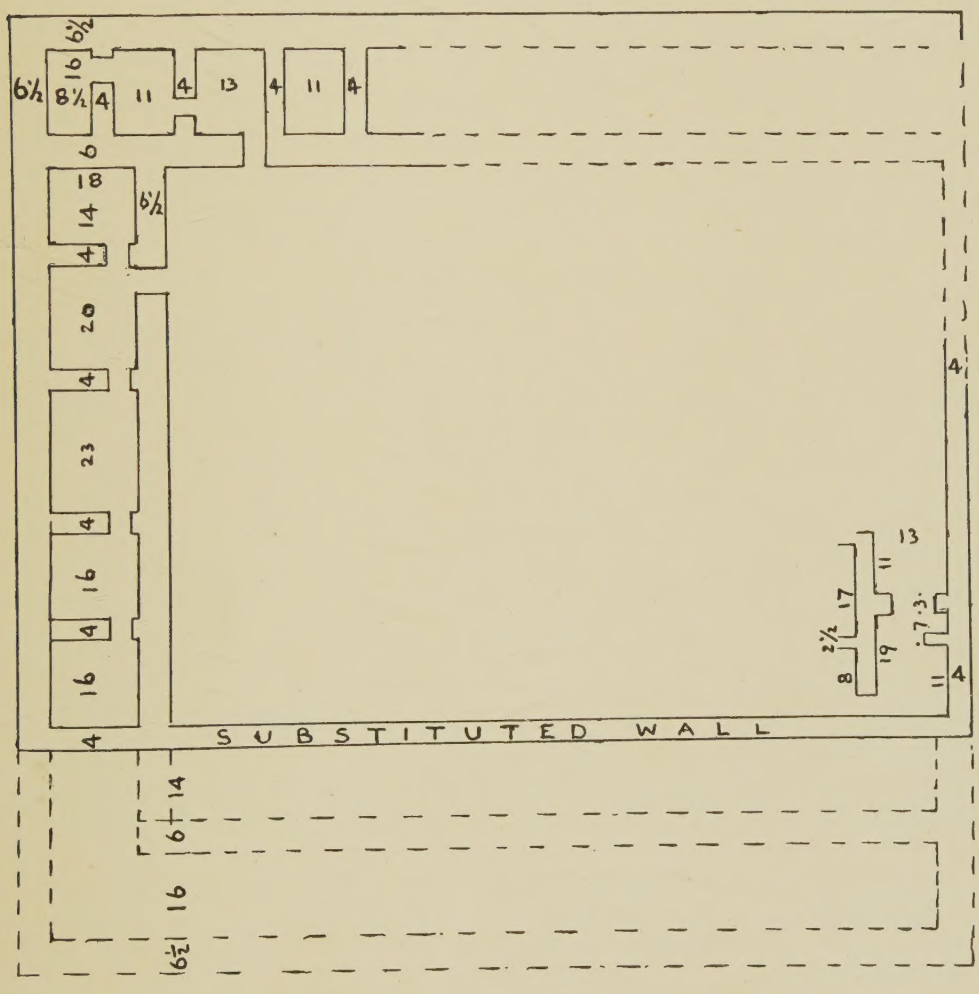
ANCIENT GAZA, 1933.

THE work of last year brought to light portions of substantial stone foundations of the first palace, belonging to the VIIth dynasty. They were partly overlaid by the successive palaces of dynasties XII, XV, XVI, and XVIII. These we had to remove in part, in order to reveal the earliest palace, which was by far the largest here, and it seems also the largest known in Palestine. In course of this clearance it became evident how the Hyksos in the XVth dynasty had taken down the XIIth walls of beautifully made yellow bricks, and incorporated them with their own black bricks in the much thicker walls which they built.



The scheme of the palace was a square of 180 feet, the foot here being 11·00 inches. In the midst was a central courtyard, with chambers around it. If symmetrical there would have been forty-four chambers, the largest 18 by 23 feet, and even the bathroom 8½ by 16 feet, the walls 6 feet thick. The north-west corner was begun in most careful manner, with large side-slabs on edge, and packing between. This style continued along the north as far as preserved; on the west it slightly deteriorated as it went to the south, when suddenly it

was stopped, and a rough line of flat blocks laid down just to close the south side of the courtyard with a plain wall. This wall had a door in the middle, and the limestone threshold of it is polished with long wear. This substituted wall joins a 4-foot wall on the east, where chambers of brick, instead of stone, were built against it. At the corner was a second bathroom 13 by 11 feet with a drain running out to the east. The cause of this change of plan seems to have been the successful attack on Egypt, which left Gaza a mere backwater, instead of being a great bridge-head, so that no great fortress was needed here. Thus it accords with dating it to the close of the VIth dynasty, and it being due to the people who conquered Egypt and founded the VIIth dynasty.

The drainage system was traced in two stone drains which led from the back buildings to the eastern side, one from the bathroom there; these united in running out a good way to the east. Two large sump pits, stone lined, for rain water, belonged to the later buildings of the XIIth dynasty. Of the same age is a large square cess-pit beneath a chamber, with a cover of hard cement forming the chamber floor. Much broken pottery of the XIIth dynasty had been thrown into the pit. The palace region being now fully recorded it was covered over again, in order to preserve the stone, which would otherwise be cut up for building material.

On the floor of the first palace there was lying the cover or lid of a stone canopic jar. It must be much older than the XIIth dynasty, as the foundations of that age rest on two or three feet of washed silt above the level on which it lay. Such human canopic heads of stone are not known in Egypt till the XIIth dynasty, the earlier ones being of wood, so this seems unique. The work is very good, but unhappily most of the face has been broken away. There should be in the cemetery the remains of a fine tomb of the functionary for whom it was carved.

In clearing a trench across the courtyard to reach the east side, a large grave was found similar to that of no. 1417 last year (*Gaza* II, xiv, 71; phot. XLVII; plan XLVI). The body had been broken up by a later burial, but there remained the fine veined dagger (fig. 1), and the white stone pommel. This is the third such dagger found at Gaza; the veining in relief seems unknown in Europe, Egypt, or Iraq, but this type is found in the Caucasus, west of Tiflis, described as having "slightly raised symmetric ribs," figured in *Eurasia Septentrionalis* VII, 88. This connection bears out the evidence of the toggle pins, of which both the types (twisted and ringed) are found in the Caucasus, on the Caspian slopes (*Eur. Sept.*, vii, 135, 141). The age of this burial is indicated by the later burial which disturbed it. This contained a scarab of delicate work with continuous spirals arranged radially, which can hardly be later than the XIth or early XIIth dynasty; see the figure beside the pommel of (1). This scarab compels us to date the older burial, preceding it, to much before the XIIth dynasty, and therefore to the period of active occupation here of the VII–VIIIth dynasties.

Fig. 2 is a large bronze knife of the VIIth dynasty age, found in the east side of the palace. The form has been copied in the model, or toy, knife 5.

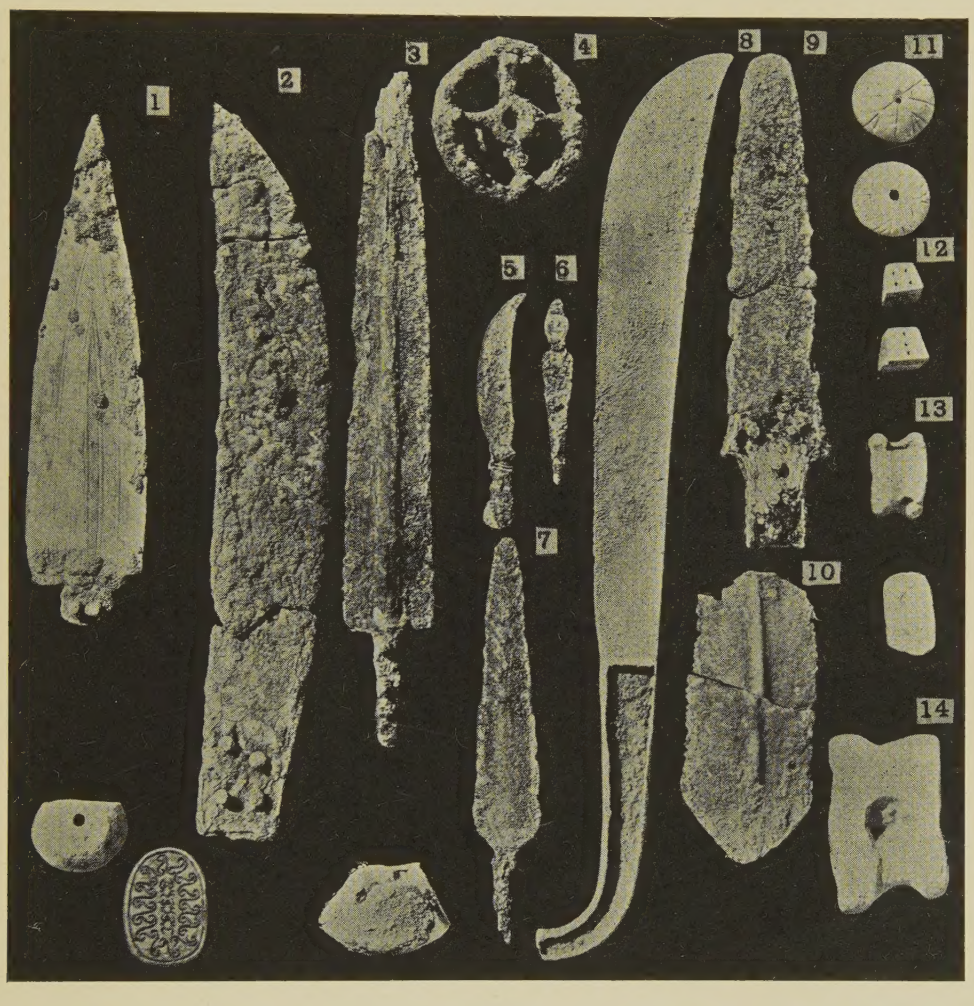
Fig. 3 is a dagger and pommel of late Hyksos age, from a burial cut into the outside of the wall of the XIIth dynasty, after that was silted up.

Fig. 4 is one of a pair of wheels, with knobs projecting on one side. They seem too heavy to have been cheek pieces of a horse bit, so they are likely to have belonged to a model chariot. Of late Hyksos age.

Fig. 6 is a model dagger of bronze, with a face punched in goldfoil at the handle, also of late Hyksos age.

Fig. 7 is one of a pair of daggers found on the floor of the first palace, and thus certainly of the VIIth dynasty.

The splendid knife of bronze (8) with a hollow handle for inlay, was found in a tomb in the cemetery with only fragments of coarse water jars, so it is not dated, but the character of it suggests the early palace period.



A curious type of knife (9) has a half tang for a handle, as in *Gaza* I, xix, 41. In *Bethpelet* I, xi, 82, it is probably middle Hyksos, but here the level is that of the XIIth dynasty.

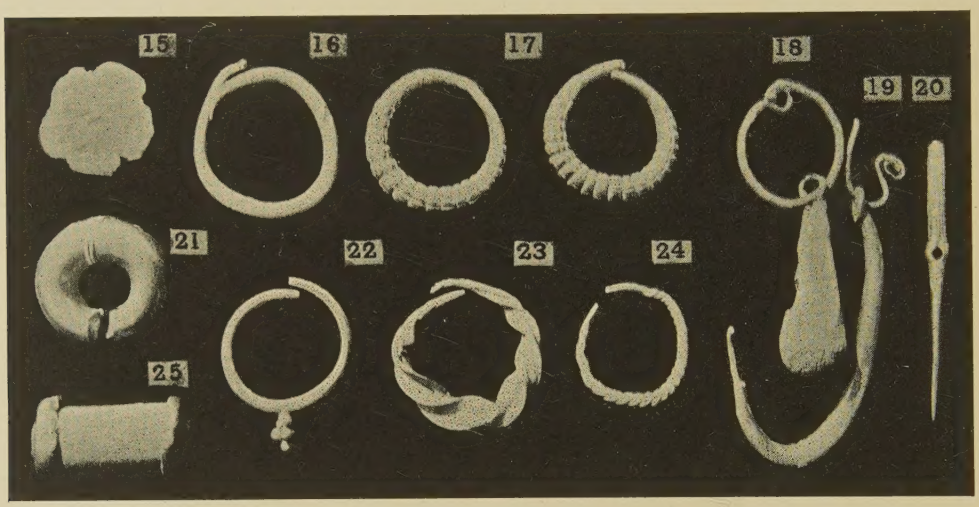
Fig. 10 is a plate of scale armour belonging to the late Hyksos or perhaps early XVIIIth dynasty. Some larger scales were also found, and all these must belong to cuisses, as they are too long to allow of a body bending.

The ivory buttons (11) and dice (12) of early Hyksos age are usual types in Palestine. 13, 14 are astragalus bones ground down to serve as gaming pieces.

Along the high western edge of the Tell we searched to the north end, but did not find any more buildings. Proceeding southward we opened up a maze of chambers, all before the Hyksos age, apparently begun in the VIIth dynasty,

and continued in the XIIth. They did not continue later, as none of the coarse Cypriote bowls were found in the chambers, only the earlier fine Anatolian bowls. Much more of the painted pottery from the north continued the interesting series of styles of which the sources are yet unknown.

The gold work is of much interest in its trade connection. Last year we found a pair of the regular torque earrings, the Irish style of which was corroborated by specialists; they were dated by the necklace found with them of the type of Tahutmes III (*Gaza* II, pl. i). This year, a smaller earring of the same style (23), was found associated with pottery of XIIth dynasty period, the later Anatolian orange line (*Gaza* II, xxxvii), the black Cypriote with red cross lines of VIIth, XIIth, and early XVth dynasty, and other pottery of the same period. The level was equal to that of the first palace, so it could hardly be later than the second palace at the furthest. The buildings about it were entirely free of the Cypriote stitch-pattern bowls which begin in the middle of



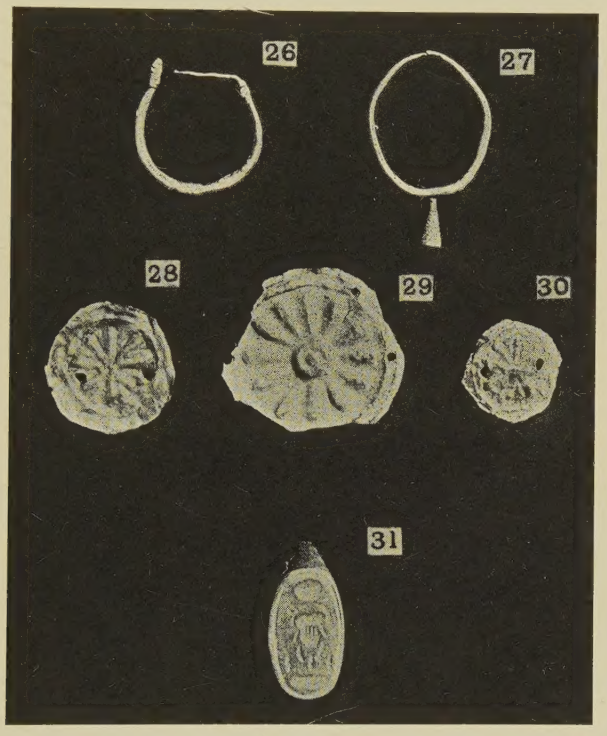
the XIIth dynasty. On every ground, therefore, we ought to date this not later than 2400 B.C. As Montelius has dated the beginning of the Copper Age to this date or rather earlier, there is no discrepancy, and the dating here reached confirms his results from Western evidence.

Ireland was the main source of western gold in early times, and having the unquestionable examples of the torque earrings it is not unreasonable to look further. The heavy plain ring (21) is of the Irish type (see ARMSTRONG, *Catalogue of Irish Gold*, Fig. 421), the Egyptian rings being thinner and with wider centres. This example is of copper plated with gold, and fifteen examples of such plating are in Dublin. Further, the twisted earring (24) is exactly like the Irish example (*Cat.* 421). With such a group of instances identical with Irish work there can be no doubt of the trade connection, though intermediaries probably passed the goldwork over the 3,600 miles of sea.

The earrings decorated with groups of globules (as 22) vary from the VIIth dynasty to the end of the Hyksos age. The ribbed earrings (17) are regular Syrian, as represented on some reliefs. The long earring (19) is of the family of the oval pendant form usual in Palestine (*Gerar* I, 3, 7, 8). The hollow silver pendant (18) is of the XVIIIth dynasty.

Other numbers are 15, a rosette, found folded up flat; it has been soldered on. 20, a toggle pin of debased ring pattern, late Hyksos. 25, a bar of lazuli with gold caps, probably from an earring, like those in the cenotaph find (G. II, i).

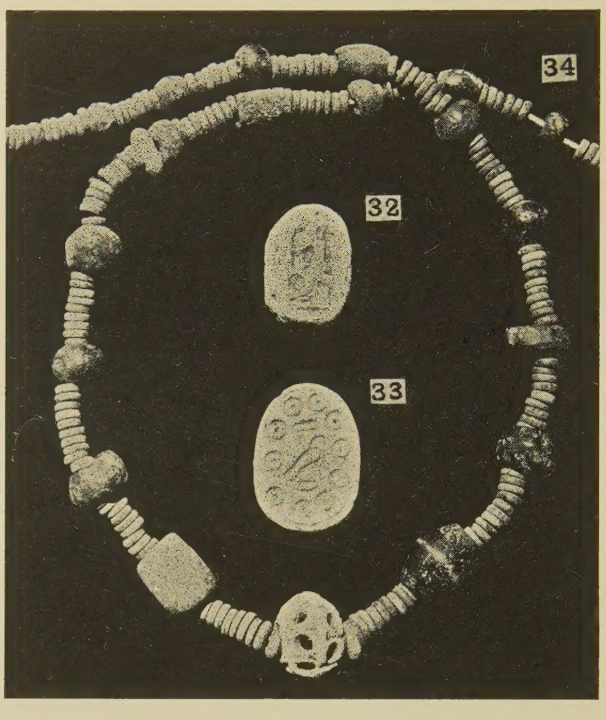
At the end of the season our work in the cemetery reached a large tomb 14 by 5 feet, with a pent-ridge roof. It seems that there had been successive burials of a family, during fifty years, by reopening a grave tomb, without a roof, and that lastly when it was filled up the pent-roof was added and a door slab placed at the end. Except for some pilfering at the reopenings, the tomb had never been robbed. The date was completely given by a large gold ring with the cartouche of Tut-onkh-amen, evidently the official ring of the governor;



also there was a scarab of Ramessu II. The gold ring was made in Palestine, as the hieroglyphs are poor, and the weight is the Babylonian double shekel, or daric standard.

The principal objects are (26) gold ring, scarab lost, probably of glass, and decomposed; (27) gold earring with tassel pendant. (28-30) Rosettes of sheet gold, probably for a head fillet, the large one with twelve petals and therefore Syrian. (31) Gold ring of Tut-onkh-amen, weight 264 grains, cast and chased. (32) Scarab of Ramessu II. (33) Scarab reading *Men* (?) *Hor neb.* (34) String of odd beads of carnelian and onyx with ostrich shell beads. Beside these there were two bronze daggers, with bronze knife, mirror, alabaster cup and duck dish; also an abundance of copper hunting arrows and bird bolts, and the lead sinkers for many small fishing nets. Pottery was abundant, both Aegean of late XVIIIth and XIXth dynasties, and local imitations of the same. This is one of the best tombs known in Palestine for purpose of dating, and the whole of it was taken together for the Jerusalem Museum.

Two other unusual things are (35) a pottery figure of woman playing on a lute or guitar, the hair thick and cut short, as on the pottery figure which



probably represents a Hyksos, found last year (G. II, v). This present figure also was at the late Hyksos level. (36) is a jar handle of hard white pottery, of a kind which is quite unknown, covered with applied spirals; it seems most likely

to belong to the XVIIIth dynasty, but is of a clay and fabric which is unlike any known elsewhere.

In the history of pottery a great advance has been made by working out the levels, and therefore the dates, of over five hundred types. For the first time all regions of a great site have been treated as a unified source, by finding what the differences of level were in each region. This was ascertained by comparing the levels of two hundred types each found in two regions; the adjustment of each region to a single standard of the palace levels could then be made; after applying the corrections, the whole of the pottery can be treated on the scale of the palace levels, which are well dated. This is a main step in using the reference to Egyptian dynasties as the definition of age for types of pottery, in place of vague terms such as Middle or Late Bronze.

The early rains of the season encouraged sowing before our arrival, so the opening for excavation was restricted. Various bare spaces were searched, and the results at the south end of the Tell were so promising that it was retained for excavation next winter. In addition to the various kinds of painted pottery from sources yet unknown, this season yielded a fine Persian dagger of the Luristan type, a cylinder engraved with a rout of winged horses and other animals at the "flying gallop," and ivory inlays of probably Persian style. The quantity of foreign work from other civilisations renders this site one of the most valuable for ancient history. The amount recovered must depend on the extent of support provided by the general public, for the hundreds of labourers required. The history only awaits the supply of labour for its recovery.

FLINDERS PETRIE.

EGYPTOLOGICAL POINTS FROM THE RAS SHAMRA TEXTS.

It will not be possible to say anything conclusive concerning the new texts from Ras-Shamra until they have all been published. Meanwhile, however, the following points of Egyptological interest have occurred to the writer in studying the material printed to date.

I. The Anointing of Kings.

It was long ago suggested by Erman [1] that the Syro-Palestinian rite of anointing new monarchs was derived from Egypt, there being ample parallels for it in that land, but none of any consequence in Assyria or Babylonia. The suggestion has more recently been revived by Bertholet,[2] and it is now possible that it receives a measure of support from the description of a Syrian coronation which occurs in the "Epic of Aleyan-Baal and Mot" recently found at Ras-Shamra (the ancient Ugarit).[3]

This description contains the following enigmatic passage:

"dq anm lyrṣ
'm B'l ly'dḅ mrḥ ;
'm Bn–Dgn ktmsm."

". . . . . (?) ; let them run,
Along with Ba'al let them make . . . . . (?) ;
Yea, obeisance [4] along with Ben-Dagan."

The doubtful words *anm* and *mrḥ* are explained by Albright as borrowed from Egyptian, the former being identical with *iwn* meaning "dyestuff, pigment" (Coptic ⲁⲣⲁⲙ),[5] and the latter with *mrḥ.t* (from root *wrḥ*) "unguent."[6] Then, deriving the initial word *dq* from a root *dqq* akin to Hebrew דקק, Assyrian *daqâqu* "grind, pound," the full sense will be:

"Grind pigments ; let them run ;
Along with Ba'al let them make anointment,
Yea, obeisance along with Ben-Dagan."[7]

If this interpretation be correct, it is certainly significant that the words used in connection with this rite of royal anointing should both be of Egyptian origin, and one can scarcely fail to be impressed with this evidence pointing to the truth of Erman's contention.

Interesting in this connection is the mention of the two gods Ba'al and Ben-Dagan as being the principal administrants of the rite. This is strangely reminiscent of Egyptian practice wherein the two gods Thoth and Horus were regarded as the anointers of the sovereign.[8]

The writer feels bound to say, however, that he is not himself by any means convinced that the anointment of kings in Syro-Palestinian custom derived from Egypt. Nevertheless, it appears to be in the best interests of scholarship to call attention to evidence which may tend to support conclusions other than one's own.

II. The Khepresh-Crown.

The derivation of the word *khprsh* has long proved an enigma. There seems to be no satisfactory Egyptian etymon.

The present writer ventures to suggest that the origin of the word is to be sought in Anatolia, the final consonant representing indeed the common Anatol. nominative. The meaning of the word would naturally develop with the change of fashions, so that it need not necessarily mean in later Egyptian what it had meant originally in its native homeland. We may compare exactly the case of our English word "*bonnet*" which derives, through the French, from the Low Latin *bonneta* originally denoting a species of stuff.

The word *khprsh* might have meant, originally, the typical Anatolian feather-headdress which Garstang has shown [9] to have penetrated into Egypt and to be traceable in the headgear occasionally worn by the goddess Anuqet. Another case of Hittite headgear penetrating into Syro-Palestine is evidenced by the presence in Hebrew of the word כּוֹבַע, קוֹבַע "helmet," for, as I have shewn in JRAS, Oct., 1933, this is a loan-word from the Hittite *kupaḫi*.

Now, the word *khprsh* may indeed be detected in an early Anatolian text. In the Luwian-Hittite (Kanisian) bilingual VAT 13011, which has a partial duplicate in BM 108648 (=Hittite Texts in British Museum I), we read:

(Obv. II. 22–24: better preserved in HT I.I. 29–31)
"*ehu* (*d*) *AMAR. UD. qatitimatta* (*d*) *Innarawantas;*
uwat eshanuwanta kuies vestata,
LU. MES. Lulahiassan KHUPRUS *kuies iṣḫiantis*
Luwian Version (only in VAT 13061, Obv. II. 22–4)
(*d*) *Santas LUGALus* (*? ? palmus*), (*d*) *Annaruwienzi*
askhanuvanta kuinzi vassantari
(*d*) *Lulakhinzastar* KHUPARAZA *kuinzi khiskhiyanti.*

"Come, O Santas, and ye Innarawantes
Who clothe yourselves in the *eskhanuwar*-garment,
Who bind on yourselves the *khuprus*."

Here it is plain that *khuprus* denotes some kind of attire, and the fact that it is combined with a verb (*iskhiya-*; cp. Greek ἔ-σχ-ον and ἰσχαίνω) strictly meaning "bind" suggests (on the analogy of Hebrew חֲבֻשׁ כּוֹבַע, German "Kopfbinde," French "bandeau," etc.) that the word denotes a headgear, in which case we may perhaps equate *khuprus* with the Egyptian *khprsh*.

Now, in the Ras-Shamra text mentioned above, there occurs a passage in which is described the manner wherein the war-goddess Anat attacks the god of blight, Mot, and tears off his royal apparel, subsequently burning it. With the ritual background of this mythos I have dealt in Archiv Orientální V. Part I; here it is sufficient to draw attention to the following phrases:

"akhdt plkh . . . . . .
plk qlt . . . . . .
tmt' mdh . . . . . .
stt khptr (?) lest,
KHBRSH lṣr phmm . . . . . ."
(Second Tablet, col. II, 3 ff.)

which may be translated as follows :

" She seized his disc ; [10]
The disc she burns ; [11]
She tears off his robe ; [12]
She places the . . . . . (?) [13] on the fire,
the KHBRSH (crown) upon the coals."

Here we seem to have *khb/prsh* once more as the name of a garment or article of clothing in a non-Egyptian text. Considering the fact that a large Anatolian Hurrite element is to be detected in the culture of ancient Ugarit which was, in fact, a kind of Marseilles of the ancient world, it is not unlikely that the word came originally from Anatolia and designated the feathered headdress.

III. Horus in a Ras-Shamra Text ?

A ritual text [14] discovered in 1929 commences with the words : " *k t'rb 'strt ḫr Ibt mlk* " which Dhorme, the first and only translator, interpreted to mean : " When Astarte brings Horus into the palace." This could only mean, one supposes, that the text describes the ritual for the annual coronation of the king under the form of Horus. There is, however, no evidence whatever of such a rite at Ras Shamra, and certainly none which shows that the king was regarded as a Horus. Moreover, this interpretation labours under a grave philological difficulty. The word *ḫr* in our text is written with the sign for " hard h "—the Arabic *kha*, whereas the Egyptian Ḥr " Horus " would, as is well known, require the alternative sign for " soft h." Hence, Horus must disappear ignominiously from the inscription. Dussaud has attempted,[15] it is true, another interpretation of the phrase. Reading " *kt'rb 'strt ḥrṣ bt mlk* " he renders " When the Astarte figure in the palace was exchanged for gold." This, however, is scarcely tenable in view of the fact that *'rb . . . bt* occurs both in Assyrian and in Minean inscriptions with the technical meaning " introduce into the temple." (*Cp.* the Minean text published by Hommel in P.S.B.A. 1894, p. 147, and the Assyrian text K. 4806, iv, 25 : *enuma alpa ana bit mummu tušeribu*, etc. *Cp.* also the Assyrian *erib biti* for a special class of temple official.) I do not profess to know what the inscription really means ; it is always possible that *ḫr* is the Assyrian *ḫaru* " bowl " [16] and that ' *strt* means " the votaress " (Assyr. ištaritu) rather than the goddess Astarte herself. This seems to be the more likely in view of what follows :

" *k bgdm strmt lbs* " which I would rather divide " *k bgdm strm tlbs* " identifying *strm* with the Assyrian *šutaru*, a synonymn of *lamḫuššu* meaning " regal garment, finery." We should then render : " Then shall she put on garments of finery."

It is my intention to offer a tentative interpretation of this text in another place ; here I will content myself with observing that there is no place for Horus in it, nor does it seem to refer to any sort of Egyptian ceremony.

NOTES.

1. Aegypten, vol. i, p. 317.
2. History of Hebrew Civilisation, English ed., p. 113.
3. First Tablet, column 1, 22–4.
4. *'db ktmsm* is the exact counterpart of the Assyrian expression *šukênu kitmusu*, on which see, more fully, Ehelof in the Tallquist Festschrift.
5. The word was also adopted into Arabic in the form أَوْن.

6. The word may perhaps be recognised in Hebrew מרח (Isaiah xxxviii, 21), but this verb may alternatively be a mere bye-form of מרק "smear."

7. Other interpretations have, however, been proposed by Virolleaud, Ginsberg and Baneth. Dies diem docet; the explanation given by the present writer in JRAS 1932, p. 879, should be considerably modified.

8. Vide Wilkinson-Birch, The Ancient Egyptians, iii.

9. Quarterly Statement of the P.E.F., October, 1932, p. 227.

10. *plk* is the Arabic فلك; the disc is a sign of royalty, as in Assyria.

11. *qlt* is read provisionally by the present writer instead of *t'lt*, but in a primitive sense "burn."

12. *md* equates with Hebrew מַד "robe" (Virolleaud).

13. I can find no explanation of this word. An Anatolian derivation has against it the fact that –tar is usually the termination of an *abstract* noun.

14. Dhorme, Revue Biblique, January, 1931, No. 5.

15. Syria x [1931] p. 76.

16. The word is given in K.11409+10452 as a synonym of *kiru* which is the Urartean *kiri* and the Hebrew כִּיּוֹר.

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THE EXCAVATIONS OF THE EGYPTIAN UNIVERSITY AT MA'ADI.

The third season's excavations of the Egyptian University (Geography Department), in the Neolithic site at Ma'adi, conducted by Professor Oswald Menghin and Professor Mustafa Amer, began on February 1st and ended on April 4th, 1933. More than 5,000 square metres were excavated, including several trial trenches.

The season's work was again fruitful, and many interesting finds were made. Most important is the discovery of a complete square hut foundation, which gives us a valuable conception of the neolithic house construction of Egypt, and which is believed by Professor Junker to be the origin of a certain hieroglyphic sign. Fragments of sun-dried bricks were detected ; and in several places were observed long rectangular earth-holes in which possibly vertical looms were erected. There was also excavated a big stove, probably a pottery kiln, in addition to several well-constructed hearths. But the greatest interest lies in the discovery of a hoard of seven basalt vessels placed in a deep cellar-hole cut in the virgin soil, possessing overhanging rims, and a rough slab of limestone as a cover. The pots are, in most cases, in an excellent state of preservation, and represent several different types, which have always been taken to represent different periods, but here are beyond all doubt contemporaneous. This is the biggest coherent find of prehistoric stone vessels made, so far, in Egypt.

In the same cellar-hole were found a fine alabaster vase and twenty-two beads, one of some whitish material, while the rest are of carnelian. Beside the above-mentioned hoard, there were unearthed during this season two complete basalt vases, as well as a most remarkable pot of grey limestone, to which some red colour was applied in such a manner that, at first glance, it looked like pottery.

Hundreds of exquisite flint implements were also collected, amongst which several big oval and exceptionally thin scrapers, and a fish-tail lance of the finest workmanship, deserve special notice. Also worth mentioning is a group of wooden objects, including a fragment of a boomerang, two small sticks, perhaps of cedar, their burnt ends betraying their possible use as incense and, finally, a carefully carved stick which may have belonged to some ornament. Beside the beads discovered in the above-mentioned cellar-hole, several body ornaments were collected from the site ; they include beads of quartz, limestone, yellow rock-crystal, and azurite, as well as pierced shells, and snails belonging to different species. For the first time at Ma'adi a comb made of ox-horn was discovered. Plenty of bone implements were also found.

The booty in pottery was exceedingly rich. More than a hundred complete vases were unearthed, many of them being of quite new types. There were, for example, several representatives of a whitish ware, often provided with knobs or ear-handles, their appearance betraying their non-Egyptian character.

In many respects this pottery bears likeness to the Syrian ceramics of the third millennium B.C., thus proving once more the connections of the Ma'adi people with their Syrian and Arabian neighbours—connections which, however, date back to an earlier time—for the culture at Ma'adi has to be placed at least about 3,500 B.C., taking the date of Menes to be about 3,200 B.C.

Of particular interest is a black pot of considerable size, decorated on the shoulder with the engraving of a crocodile, and provided with a round hole, intentionally cut at the bottom; it was probably used for cult purposes. But we have not, as yet, come across a complete specimen of painted pottery, and that in spite of the fact that it is represented by so many sherds. Nevertheless there was saved this season a rather big fragment of a bowl, painted both inside and out. The pot-painting of Ma'adi has a peculiar style of its own, quite independent of the various painted wares in Egypt. Its origin and connections are as yet unknown. A piece of burnt clay representing the head of an animal was also found; though without painting, it is similar to the camel-head-like piece which was found during the first season.

The search for the tombs remained without success. There were, however, found eleven foetus interments, some in pots, and some in the virgin soil. One of the pots containing a foetus shows a most important peculiarity; it possesses two perforations representing eyeholes, no doubt, to allow the spirit buried in the pot to remain in connection with the material world. It is the first example of such a device, reappearing so frequently in later times. Human adult bones were again found this season; they were scattered over the whole area, and were mostly fragments of skulls, belonging to at least seven different individuals. It is not impossible that they came from tombs which lay within the settlement, and which were destroyed by the *sebakh* diggers. Nothing certain can be said, however, until an undisturbed grave is discovered.

The neolithic site of Ma'adi is proving more and more to be one of the most important centres of neolithic culture in Egypt. Both the scientific and material wealth it has unexpectedly revealed during this year's campaign, as well as the multitude of problems connected with the site, make it indispensable to excavate the whole of the settlement, the scientific importance of which cannot be over-rated. The excavations at Ma'adi are expected to throw fresh light not only on the complicated questions of the earliest history of Egypt, but also on that of Palestine and Syria, the most ancient chronology of which may possibly be linked in future with Egypt by the help of correlations with Ma'adi.

[The sticks with burnt ends are probably fire-drills. F.P.]

THE PENDULUM IN EGYPT.

When we consider what is the natural division of time, it is obvious that the second is quite arbitrary, resulting from Babylonian division by 12 and 60. This cannot claim a scientific base, as the lunar months are not 12 but 12·4 in the year. Though the hours, derived from the monthly division, were used in Egypt, yet the Egyptians always used decimal numeration otherwise, and so it is an open question whether they used it for the day.

Another question yet unsettled is the origin of the pendulum as a time measure. The use of the pendulum for measuring the pulse may well have been an early method. It is not long ago that the pendulum length was used to define musical speed, leading to the modern metronome.

The earliest record of the pendulum being observed is Galileo's use of it to note the pulse, and his observation of a swinging lamp making uniform vibrations, whether in large or small amplitude. Yet it is difficult to suppose that in previous ages the swinging of a plumb-bob, which was a very familiar object to the Egyptians, would never excite interest or observation. The lack of a rod suspension would prevent any method of recording the swings, or of giving an impulse to continuous motion. About a century ago the pendulum was proposed as a definition of length for standard British measures, and it was only the difficulty of minute observation that gave a superiority to a metal bar as a unit.

It is therefore an interesting question what is the length of the pendulum to vibrate in the decimal division of the day, that is by 100,000 instead of 86,400, so as to reach a purely natural decimal standard of length. The length is equal to the velocity of a falling body in a given time, divided by the square of the ratio of circumference to a diameter, and the length is proportionate to the square of the time. As that velocity in one second (commonly called g=gravity) is well known at different latitudes, the result is simply derived from g at latitude of Memphis, 30°, fixing the seconds pendulum there as 39·058 inches, and this $\times$ square of ·864=29·157 inches for the pendulum swinging 100,000 times in the day.

This length is the basis of the Egyptian land measure, which we know most accurately by its being the diagonal of the square cubit. The Egyptians used a square measure and also its diagonal, so as to be able to lay out squares —as of land—one double of another in area. The cubit resulting from this

pendulum would be 20·617 inches. The most accurate definition of the cubit is by Khufu's pyramid :—

King's Chamber	20·632±·004
Pyramid base 440 cubits	20·612±·003
Average	20·622±·005

So the pendulum cubit comes well between the two best examples.

The practical steps needed to ascertain the length by observation would be to use a pendulum of 4×29·157 (nearly 10 feet) so as to get more accurate definition, beating 50,000 in the day, or 25,000 double swings. The number could easily be recorded in Egyptian fashion, by spotting down ten swings in a line, and ten lines to a square, filled up in about three minutes ; after half an hour change guard to another observer. Do this with a day and a night guard, from sunrise to sunrise. Half a dozen such experiments, and averaging of varying results, would soon lead to a conclusion. For instance, start with one of 20 hours and another of 28 hours, the average would be right within 1 in 60. If starting again with one of 1 in 60 too long, and 1 in 60 too short, the average would be only 1 in 3,000 wrong. The limit of this accuracy in measurement of the plumb-line would be little more than a thirtieth of an inch, easily observed, between the middle of a spheric weight, and the clip which held the plumb-line at the top.

When could this have been an origin of measure ? The cubit is found as the unit in the earliest of the royal tombs, so its derivation would have been before the first dynasty. Either we have a remarkably close coincidence, or we must credit exact observation rather earlier than we already know it in the fourth dynasty.

This land measure of 29·157 was divided into 40 digits of ·7289 inches ; 25 such digits, 18·22, are equal to the Greek cubit, 18·23 inches ; and two-thirds of this, 12·14, was the Greek foot of 12·15 inches. Another line of descent was by 16 digits, 11·663, being the Roman foot, 11·65 (Dorpfeld) ; it passed again into prehistoric use as 11·68 at Stonehenge. This is the largest family of measures that is known.

FLINDERS PETRIE.

REVIEWS.

The Language of the Pentateuch in its Relation to Egyptian. By A. S. YAHUDA. Vol. 1. Large 8vo, 326 pp. 1933. (Oxford University Press.) 25*s*.

Whenever a dogmatic system has held the ground of thought for two or three generations, there is a troubled time when its position is shown to be assailable. Fresh ideas impinging on it are resisted with contempt or abuse, and those who furnish the new stand-point will need to find the strength and defensibility of their position. This is true of the history of dogmatic belief, and equally true of the later system of dogmatic disbelief.

Dr. Yahuda wisely spends himself upon construction, establishing new positions and new views of common-sense value, and does not spend time on showing the many absurdities which have grown under the name of criticism. At the same time in his construction there are parts of very different values, the force of which will depend on the habits of thought of those who read them.

In such a wide field of details all that we can here consider is the force of the general position in each chapter, with a few notes by the way from the different basis of material civilisation. In chapters 1, 2, the current idioms of social and courtly usage are noted, as being part of the strong Egypticity of the Genesis and Exodus narratives, the close resemblance clearly showing the familiarity with Egyptian life. It may be added that thunder is called the speech of Set, in the note on the mathematical papyrus. In ch. 3, 4, the simple expressions and similes in Hebrew are likewise habitual in Egypt. We may note the use of *m · rā* (in the mouth), as the usual title for a person who gives orders: also the actual carving of a wooden finger, with a divine head, for use in ceremonies (*Anc. Eg.*, 1932, 69), and the *zeser* arm sign, as the hieroglyph for strength. The lowering of the hands and bowing is characteristic of the courtiers of Akhenaten.

Ch. 5 deals with formal phrases of comparison; these being natural ideas might recur without always necessarily a connection. The opening phrase of narration about "many days" is like the Arabic "One day from among the days" so and so happened. The lumping together in a collective term, "all the gods of Egypt," is noticeable in *paut neteru*, the lump or cake of the gods. In the phrase of the maid-servant behind the millstones the allusion is to the saddle quern where the grinder knelt behind it, and slid the top stone. In later times trachyte mills were imported from Bashan, quite flat, the upper stone having a long slit to let the corn slip down; this is the form where two women grind, pull and push (Matt. 24, 41). The circular mill is Roman, on a conical base; or, later, a pair of discs as used from Scotland to Egypt. "Seats" as a term for habitation is essentially Egyptian in the hieroglyph for every kind of residence, as we say a gentleman's seat in the country.

In ch. 6 we note the Egyptian words taken into the Hebrew of the Pentateuch, which are an important class, and decisive of familiarity with Egypt.

The second section is on the pre-Hebrew descriptions in Genesis. The Akkadian beliefs (as about the Flood) show in expressions a trace of editing in Egypt. The *tehōm* "deep" is connected with the Akk. *tamtu*, "sea," and in Hebrew *tehōmoth* for the lakes of Palestine; no connection is allowed with the *tiāmat* dragon. Man being made in the image of God, from the *adamah* red earth, and living by the breath of life, are all ideas from Egypt. In the Paradise beliefs, parallels to Egyptian expressions are traced. The gold land Havilah supplied "good gold," like the Egyptian *nub nefer*. Punt, the land of incense, is referred to the Arabian coast, though the name still remains attached to a typical Punite or Punic site, the peninsula of Ha-fūn on the Somali coast.

The Tree of Life, from which the gods live, is an Egyptian expression for the sycomore—mis-spelled sycamore, an entirely different tree. The "being like God" is an Egyptian wish, brotherhood with the gods, as in the funeral aspiration on the black cylinders.

In the Flood beliefs the word for ark *tēbā* is the Egyptian *tebt*, box or coffer, also applied to the ark of the infant Moses. The word for rain of the Deluge, *gešem*, is the Egyptian for rainstorm. The months and days assigned to the Flood are shown to be adopted from the periods of the Nile inundation.

The habit of punning and allusive names is of less importance, no doubt connected with the sense of the commanding value of the word or name; this is akin to the philosophic value of the word in Greek reasoning; both depending on the fallacious sense of the word perfectly expressing the true nature of an idea. We have since learned how imperfectly words ever express the far more complex intuition of the mind. On p. 266 Beersheba is a "well of seven," taken as meaning seven ells deep, but seven *tūl* or lengths of a man's reach is more likely. The expression "savour of rest" (Gen. 8, 21 marg.) means an "eternal savour," from Egyptian *neheh*, eternity, or *ne heh* "of the vast." Various analogous phrases are quoted in Hebrew and Egyptian.

The value of such detailed study of the Egyptian connections of the Pentateuch is more needed, as Semitic scholars know little of Egypt; one of the most recent histories of Palestine altogether ignores the strong Egyptian bearing of the narratives. Of the entirely fresh critical value of this work there can be no question.

The Influence of Islam. By Rev. E. J. Bolus. 8vo. 1932. 10*s.* 6*d.* (Temple Bar Publishing Co.)

This is a well arranged study of the contact of Islam with various countries and on various subjects. It is the more welcome as such a view is difficult to grasp from very scattered authorities. It would not exactly please an Arabophil, but the faults which are noted are only too familiar to one who, like the author, has had a long practical contact with Islam. The extreme pretensions to fabulous rights and privileges unfortunately damages Islam in a work-a-day world.

The Tebtunis Papyri. By A. S. Hunt and J. G. Smyly. Vol. 3, pt. 1. Large 8vo, 333 pp., 7 pls. 1933. (Egypt Exploration Society.)

This volume contains papers of more general interest than usual; reference here is by the number of each papyrus.

694. Treatise on Music. This is not on ordinary lines, but argues out the division of the octave, resulting in the usual major notes, but without a seventh. 3rd Cent. B.C.

698. Antiochus IV Epiphanes is known to have invaded Egypt, and to have been crowned at Memphis, but the seriousness of this display has been doubted. Now here is the opening of an ordinance of Antiochus to the Crocodilopolite nome, showing that he took up the civil government, 170 B.C. In No. 781, depredations were made on a Fayum temple by troops of Antiochus.

701. Fishermen worked for the State as owner of the fishing rights in the Fayum. They were paid partly in money, partly in fish. Loans were granted for gear. There was a "small lake," apparently in the north-east corner of the Fayum, and the village by it was in process of decay. This in 235 B.C. seems to refer to a corner which was isolated, as the main lake was reduced by blocking the supply and reducing its level; the gradual desiccation by the Ptolemies in order to obtain settlement land is thus corroborated. This small lake is not heard of after 200 B.C.

703. Rules of office for officials in various departments, for agriculture, transport, Royal revenues, deserters, correspondence, and general instructions. Supervisors of canals were to examine the size and outflow of the branches. Admirable is the precept, "In your tours of inspection, try in going from place to place to cheer everybody up and to put them in better heart; and not only should you do this by words, but also if any of them complain of the village scribes or the headmen about any matter touching agricultural work, you should make inquiry and put a stop to such doings as far as possible." Even an inspector should be human!

There was a regular sowing schedule of the nature and proportion of crops which must be maintained. The U.S.S.R. is anticipated.

817. A mortgage between two Jews for a small house was specified as being without interest for one year; but if not repaid then "overtime interest" is to be paid at 24 per cent. This clause proves that, though the mortgage was nominally free of interest, there was interest involved, probably by payment at the time of the loan, *i.e.*, supplying only 76 per cent. of the loan named. Thus the amount of interest charged was kept private, and not subject to control.

Antiques, their Restoration and Preservation. By A. Lucas. Second edition. 8vo, 240 pp. (Arnold.) 1932.

This work has been largely revised and rewritten, to include the active experience of the last eight years, where so much conservation has been carried on. This is therefore an indispensable work of reference in museums. It is also needed in field practice, although often in the country the worker must be content with less perfect materials than are recommended here.

Sometimes different experience has led to other methods than those named here.

Salt, for instance, is removed most completely and safely from stone by percolation from the face to the back; the sculpture or painting is laid face down on clean sand, which is kept moist, water soaks through to the exposed back of the block, and then evaporating leaves salt crystallised where is it easily brushed away. As the flow is inwards at the face there is no dissolving or loss on the face.

The use of a soft butter of paraffin wax in benzine is much the best way of applying a thin coat to wood. After the benzine evaporates, the paraffin can be lightly warmed to fuse it into the fibres of the wood without being enough to choke the pores. Thus the natural appearance is preserved, and a soft brush will leave a good polish.

In washing organic matter out of grave clothes, it is good to roll the tender cloth in some firmer stuff, and then it can be soaked and squeezed some dozens of times without breaking up the fragile fibre.

For dissolving and loosening chloride of silver, citric acid is excellent; it may be used about 20 per cent. in water where much copper corrosion has to be dissolved, though only 5 per cent. is enough for cleaning sound silver. It is more readily obtained than formic acid when in the country. A rinse with sulphuric acid will remove any lime safely.

For the powdery green corrosion of copper, which is so destructive, caustic soda is insufficient, as the trouble will recur. Ammonia is the only safe cure, as its volatility makes it permeate any porosity.

Bulletin, American Institute for Persian Art and Archaeology. 5.

This recounts the wide activities of the U.S.A. in opening up Persia.

JAYNE, H. H. F.—*Damaghan.*—The prehistoric site of Tepe Hissar is the important result, giving a series of cultures reaching to 3500 B.C. This earliest age had painted pottery like the early Susa style. Over-run from the north by a people who had a free use of copper, a larger civilisation grew up which has provided a harvest of results. About 1600 burials have been opened, and a great variety of jewellery and elaborated vases recovered, about contemporary with the XIIth dynasty. The style of the vases is substantial but not clumsy, and the forms are completely different from the Egyptian. This age ended the history of the mound, between 2000 and 1500 B.C.

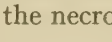
BREASTED, C.—*Persepolis.*—The clearing and restoration of the ruins of Persepolis is a vast task which has long been a tempting bait. The wonderful monument of a great civilisation, burnt by the drunken Macedonian, has been preserved to some extent by the mouldering of the great walls of crude brick. Only the stone portals and columns remained standing, and the sculptured platforms and wide stairways were safely buried in the soft silt washed down over them. Now there is brought to light a great array of the finest and most detailed sculpture, beginning with Cyrus, and antedating all the highest development in Greece. That site should provide a great assemblage of all the portable objects of luxury, and there should be such a revelation of the art in metal and ivory as we have not yet dreamt of; but this result needs careful nursing, and good rewards to the diggers, or it will be lost. There is not a word in the report about any portable objects being found.

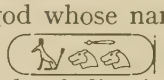
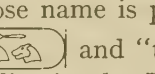
A neolithic settlement has been opened, two miles from the great palace, with flint knives and finely painted pottery. This marks a clear stage in the early history, but what went before it, and how it was linked with later grandeur, remains as the great problem before the zeal of excavators. With these world-important questions of civilisation before us, the care spent on Parthian and Sassanian and Islamic work seems misplaced energy. Persia is the key region for the early history of man.

JOURNALS.

ZEITSCHRIFT FÜR AEGYPTISCHE SPRACHE LXV, 2, 1930.

KEES, HERMANN.—*Göttinger Totenbuchstudien. Ein Mythus vom Königtum des Osiris in Herakleopolis aus dem Totenbuch Kap.* 175.—This is a new treatment of this rare chapter of the Book of the Dead, in the light of a complete version in the recently-published *Tomba intatta dell' architetto Cha* (*tempo* Amenhotep II–III) and of an unpublished papyrus (B.M. 10081) of the XXXth Dynasty. The text in its present form must have originated in the Heracleopolitan period, that is, in the best period of the " Coffin Texts." The explanation of the syncretic unity of Ra-Osiris in the shape of a ram (Harshefi) is given in the text in the form of a myth.

KEES, HERMANN.—*Kulttopographische und mythologische Beiträge.*—This is a continuation of an article that was begun in the preceding number ; it consists of the fifth section entitled " Hike der Aelteste des heiligen Platzes des Urbeginns." Kees offers this translation (" the eldest of the holy place of the beginning of time ") of the epithet following the name of the god Hike on the sphinx stela of Thothmes IV in the necropolis area of Giza  .

SETHE, KURT.—*Der Denkstein mit dem Datum des Jahres* 400 *der Ära von Tanis.*—Sethe suggests the following solution of the riddle presented by the Tanis stela set up by Rameses II on which is mentioned the 400th regnal year of the god whose name is placed in cartouches like a pharaoh's, " Set great in power "  and "the Ombite "  :—Whilst the first six lines contain the dedication by Rameses II, the last six lines beginning with the date refer to the 400th anniversary of the founding of Tanis in the time of the god Set. The ceremony was conducted by the Vizier Seti, afterwards King Seti I, son of Pa Rameses who was afterwards King Rameses I. " The father of his fathers," whom Rameses II mentions in the dedication even before his own father Seti, must be the god Set ; the whole atmosphere of the monument indicates that the Ramesside family, which sprang from the neighbourhood of Tanis and in which the name of Seti was hereditary, was actually descended from the god Set. The inscription yields the name of the mother of Seti I, who was called Ty[3].

WOLF, WALTHER.—*Papyrus Bologna* 1086. *Ein Betrag zur Kulturgeschichte des Neuen Reiches.*—This is the first complete rendering of the papyrus, which is the letter of a scribe of the offering-table, Beknamun, to a priest of the temple of Thoth called Ramose. It deals with four subjects : (1) the correspondence of these two individuals ; (2) the writer's search for a Syrian slave belonging to the addressee, which yields interesting details of the conditions of slavery ; (3) an obscure passage about the " staff of Thoth," a cult object ; (4) the writer's success in getting the grain quota for which Ramose was liable reduced by 200 sacks in consideration of the fact that the Syrian slave had not been working for him. The composition of the letter is clear and the handwriting, which resembles late XIXth dynasty hands, is good ; the only difficulty is our ignorance of the actual conditions. The vizier Mery Sechmet mentioned in the papyrus has been placed by Weil (*Veziere*, p. 106) in the time of Seti II.

WOLF, WALTHER.—*Zwei Beiträge zur Geschichte der* 18 *Dynastie.*—I. *Thutmosis IV der Vater Amenophis' III.*—A passage in the legend of the birth of Amenhoted III at Luxor (Gayet, *Temple de Louxor, Mem. d.l. Miss.* 15, Pl. 71,

fig. 205), which, the writer states, has not been sufficiently taken into account, clearly shows that Thothmes IV was the father of Amenhotep III.

II. *Semenchkerê und Tutanchamun.*—In the light of Smenkh-ka-ra's continued residence at Amarna after Akhenaten's death and with the knowledge of Nefertiti's letter to the Hittite king, it is suggested that it was Smenkh-ka-ra who obliterated Nefertiti's name and figure on the monuments and substituted that of Merit-aten.

Spiegelberg, Wilhelm.—*Reliefbruchstücke aus der Zeit der* 30 *Dynastie.*—These fragments were bought by the writer from a Cairo dealer for the Munich Museum antiker Kleinkunst (Inv. 1313). Were they not definitely dated to the XXXth dynasty by the kings' names in their inscriptions, the modelling would suggest the Ptolemaic period.

Spiegelberg, Wilhelm.—*Beiträge zur Erklärung des Sonnenhymnus von El-Amarna.*—Some emendations are suggested in Sethe's translation of Amenhotep IV's Hymn to the Sun.

Anthes, Rudolf.—*Eine Polizeistreife des Mittleren Reiches in die westliche Oase.*—The M.K. stela discussed in this article was acquired by the Berlin Museum in 1928 (Inv. No. 22820). In the biographical inscription the owner K^{3}y, an " overseer of the western oasis," relates the success of his raid into the western oasis (probably Dakleh) and the bringing back therefrom of fugitives. From this it may be inferred that this oasis was at that time a refuge for escapers from justice and that these outposts were not then under the state's control. In addition to husband and wife, five dogs are carved on the stela with their names over them in hieratic.

Engelbach, R.—*An alleged winged Sun-disk of the first Dynasty.*—The writer is " very certain that no sun-disk ever existed between the wings " which are surmounted by a boat and which themselves surmount the *serekh* name of the Serpent King on the ivory comb from Abydos figured in *Tombs of the Courtiers* pl. XII. (For von Bissing's statement to the contrary see *Zeitschrift LXIV*. p. 112.)

Von Bissing, Fr. W.—*Ein indirekter Beweis für das Alter der "Hyksos-sphingen."*—In the writer's opinion the sphinx of Amenemhat IV in the British Museum definitely dates the " Hyksos " sphinxes to the time of Amenemhat III or Senusert III. His dating of the Barracco sphinx to the time of Thothmes III is confirmed by the representation of an identical sphinx in the tomb of Rekhmara, with an inscription stating that the sculptures were carried out at Thebes under Rekhmara's supervision.

Spiegelberg, Wilhelm.—*ntr.w " Götter "=" Bilder."*—Sense can be made of a passage in the tomb of Nefermaat at Medum reading " He it was who made his gods in a painting which cannot be effaced " if the word *ntr.w* " gods " be translated by " pictures."

Spiegelberg, Wilhelm.—*Ein Herzskarabäus.*—This heart scarab is in private possession in Munich.

Spiegelberg, Wilhelm.—*Das Schweigen im Grabe.*—Two inscriptions in N.K. tombs enjoining silence on workers show that the quiet of the other world was to be respected even by pictures of the owner's entourage.

Spiegelberg, Wilhelm.—*Das Thor des Beke (Bkj).*—Bologna Papyrus 1094 mentions " the great gateway of *Bky*." The suggestion made here is that this

word is an abbreviation of *Bk-n-Ḥnsw*, the name of the High Priest of Amon in the temple of Karnak under Seti I and Rameses II.

Crum, W. E.—*Ein neues Verbalpräfix im Koptischen.*—Thirty years ago, in describing B.M. Or. 5707, a palimpsest, the writer drew attention to a verbal prefix, ⲙⲁⲧ-. He now gives fourteen more examples of similar verbal combinations which confirm his assumption that we are dealing with a conditional that has been unnoticed hitherto. All these examples belong to Middle Egypt dialects. Furthermore, it may be that cases in which prefixes of a similar appearance are preceded by ⲉⲩⲱⲡⲉ should be included; it seems certain that they must be conditional phrases in combination with this word.

Jernstedt, P.—*Zur lexikalischen Neuschöpfung im Koptischen.*—These contributions to Coptic lexicography deal with (1) ⲟⲩⲉϩⲙⲁⲧ and (2) ⲭⲓ ϩⲣⲁⲓ ⲉⲃⲟⲗ, ⲧ ϩⲣⲁⲓ ⲉⲃⲟⲗ.

Zu den Ausführungen von Sethe über die *whm msw.t* Datierungen *in den thebanischen Grabberaubungsakten der 20. Dynastie.*—This article is taken from a letter to the author from Dr. Jaroslav Černý, who suggests the following explanation of the *whm msw.t* period: Rameses XI was forced in his nineteenth year to capitulate to the theocratic party and to transfer at least some power to Herihor in Thebes and to Smendes in Tanis, thereby creating a coregency, which found expression in dating after *whm msw.t.* Other parts of the kingdom perhaps continued to date from the accession of Rameses, as there is a stele from Abydos with his 27th year. *Whm msw.t* lasted at least six years and perhaps to the death of Rameses, which was not earlier than his 27th year. Apparently after his death there was harmony.

Miscellanea.

Under this heading Hans Jacob Polotsky shows that Sahid, ⲕⲓⲱⲟⲩ is the qualitative of ⲕⲁⲁⲩⲉ "to be fat." Spiegelberg notes a small bronze falcon's head in the Munich Museum *antiker Kleinkunst* with a scarabaeus instead of a sun's disk, and writes on the vocalisation of *mḥy.t* "North wind."

L. B. E.

Zeitschrift für Aegyptische Sprache, LXVI, 1, 1930.

Sethe, Kurt.—*Sethos I und die Erneuerung der Hundssternperiode* (mit einem Exkurs über das *whm msw.t* der thebanischen Grabberaubungsakten).—Two historical inscriptions of Seti I, which contain a most unusual phrase in the date ("beginning of eternity" *nḥḥ*), yield a new Sothic period date for the N.K. and enable the beginning of the reign of Seti I to be dated to 1318 B.C.

Another proof that the beginning of the reign of Seti I coincided with the beginning of a new Sothic period is afforded by the expression *whm msw.t* ("Renewer of birth," "reborn") which follows the mention of year 1 or year 2 in three inscriptions of this king (two at Karnak and one on an ostrakon in the Cairo Museum). A similar use of the term *whm msw.t* "Renaissance" in dates is to be found in the papyri relating to tomb robberies in the Theban necropolis at the end of the XXth dynasty. The term is here applied to an interregnum of six years between the XXth and XXIst dynasties. (On this point see Černý's article in *Zeitscrift* LXV, which should have been printed in this number.) [This agrees with the single year of reign of Ramessu I Men-peh-ra being the "Era of Menophres."—F.P.]

Schäfer, Heinrich.—*Zum Wandel der Ausdruckform in der ägyptischen Kunst.*—With copious extracts from *Von ägyptischer Kunst* the writer shows

that his definitions of the main characteristics of the three great periods of Egyptian art history in this book are borne out by his later observations on the changes in the form of the lotus stem and in the manner of holding it in the representation of " smelling a lotus flower."

BORCHARDT, LUDWIG.—*Ein verzierter Stabteil aus vorgeschichtlicher Zeit.*—A portion of the ivory casing of a staff bought from a Luxor dealer is reproduced and described. It is decorated with two strips of carving in relief, each strip containing two warriors, three of whom very much resemble the figures on the Hunting Palette in the Louvre and in the British Museum.

BORCHARDT, LUDWIG.—*Zwei Kalksteinscherben mit literarischen Aufschriften.*—Of the two limestone sherds in question, one is inscribed with the beginning of the *Tale of Sinuhe*, the other with the beginning of a book of maxims hitherto unknown.

PIEPER, MAX.—*Ein Text über das ägyptische Brettspiel.*—This papyrus, which is in the Cairo Museum, was transcribed by Daressy in *Rec. de Trav,* XVI but not translated. It consists of three pages, each containing only three lines. There are two variants ; one was put together by Seyffarth at Turin, the other was found on the walls of a Theban tomb by Lepsius. The handwriting is of the time of Rameses III, though the language is classical (*i.e.*, M.K.). In the text a game played on a board is described as if it were a journey through the other world, and this comparison is also characteristic of the XXth dynasty and quite alien to the old literature of the dead. Moreover, the Mehen snake, which occurs in the text now as the opponent and again as a protective spirit, also makes its appearance in the " Amduat " texts.

The game described in a Greek text (Grenfell and Hunt, *Oxyrrynchuspapyri* III, p. 141 ff.) is an astronomical game. It is played on a board of 30 spaces, though the 30th, which is called the " House of Horus," may not be played on, since on the 30th day of the month the moon is not visible. 360 points may be won in the game, and this explanation renders intelligible the famous passage in Plutarch where Thoth wins 360/72 from Selene, with which he makes five whole days. It is not improbable that this game was played with the two sets of 15 pieces and the two dice that are usually found in an Egyptian play-box, for in this way a game could easily be played in which 360 points could be made. The pieces were called " dogs." In this text has survived a portion of a Greek translation of an Egyptian astronomical work, probably dating to the Ptolemaic period when such translations are said to have been officially made. The article includes a short account of Egyptian games and of publications dealing with them.

VOGEL, KURT.—*Zur Frage der Scheffelteile.*—Criticizing Neugebauer's article in *Zeitschrift LXV* (*Über den Scheffel und seine Teile*), the writer concludes that the views hitherto prevailing on the division and reckoning of the bushel may still be held. He considers that the Egyptians understood the relationship between unity and multiplicity : they could always make 320 sub-units (Ro) out of a unit and re-combine these to the bigger unit, even as by a similar process they could combine 10 or 100 hekats to form a larger super-unit.

SPIEGELBERG, WILHELM.—*Das Herz als zweites Wesen des Menschen.*—The ancient Egyptian conception of the heart as an exterior soul can be traced in Coptic, for " the heart comes back " after fright, unconsciousness or trance.

Spiegelberg, Wilhelm.—*Die ägyptischen Namen für das rote Meer.*—The various Egyptian names for the Red Sea are given.

Spiegelberg, Wilhelm.—*Zur Bestattung der Mumien in der römischen Kaiserzeit.*—Amongst the mummy shields of the Ann Arbor Collection at Michigan are two which contain a new formula and throw new light on the burial of mummies. The owner's name is said to be entered in the register of a certain district of the city. These texts elucidate some bilingual shields in the same collection.

Spiegelberg, Wilhelm.—*Eine neue Bauinschrift des Parthenios.*—This stele with a building inscription set up by Parthenios in the temple of Koptos is at Moscow.

Spiegelberg, Wilhelm.—*Die Inschriften des grossen Skarabäus in Karnak.*—From the fourth line of the inscription on its pedestal it would appear that the granite scarab excavated by Legrain in 1907 at the N.E. corner of the sacred lake at Karnak was originally intended for a building of Amenhotep III in the west of Thebes.

Franzow, G.—*Zu der demotischen Fabel vom Geier und der Katze.*—The first fable in the Leyden demotic papyrus published by Spiegelberg in 1917 (*Der ägyptische Mythus vom Sonnenauge*) is the story of a friendship between a vulture and a cat. It has an interesting parallel in a Babylonian fable of a friendship between an eagle and a snake, which forms the beginning of the Etana myth. This parallel, coupled with the mention of Syria and the probable mention of a Syrian in the demotic fable, suggests that the Egyptians borrowed fables from the Babylonians, the intermediaries being Syrians.

Borchardt, Ludwig.—*Ein gnostisches Amulett.*—A detailed inscription, without explanation, of a remarkable gnostic amulet.

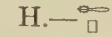
Hengstenberg, W.—*Die griechisch-koptischen* ⲙⲟϥⲗⲟⲛ*-Ostraka.*—These Greco-Coptic ostraka, which have only been known lately, are all written by the same hand, their contents are all arranged according to a similar scheme, and all contain the formula ⲉⲧⲙⲟϥⲗⲟⲛ, usually at the end, like a signature. In this article the writer contributes twenty-two new ostraka to the group, making thirty-nine in all, whilst a further forty-three are to be added in the next number of the *Zeitschrift.* He thinks their place of origin is between Luxor and Cairo. He translates ⲙⲟϥⲗⲟⲛ as "mill." The inscriptions usually consist of (1) date, (2) source of the grain, (3) nature of transport, packing and quantity of wheat, (4) destination, namely "the mill." These ostraka conjure up a big estate possessing its own mill. They were delivery notes sent by the various tenants to the miller, and though nearly all are written in the same hand, they were written at different places, probably by an official who visited the several threshing-floors to supervise the transport of the grain to the mill.

Miscellanea.

Bissing, Fr. W.v.—*Noch einmal die älteste geflügelte Sonnenscheibe.*—In spite of expert disagreement, the writer cannot abandon the view he expressed in *Zeitschrift* LXIV regarding the presence of a sun-disk on the ivory comb from Abydos.

Schäfer, Heinrich.—*Die Seele auf der Pyramidenspitze.*—A prayer on a XIXth dynasty monument in the Vatican Museum (No. 214) reads, "May he

(Osiris) let her soul (*bai*) come forth and alight on her pyramid and see the sun at his rising." This prayer elucidates the inscriptions at the apex of the pyramid of Amenemhat III, which state that the king sees the beauty of the sun (east side), that his soul (*bai*) is higher than Orion, etc.

GARDINER, ALAN H.—  = "umbilical cord" *Westcar* 10, 11–2 should be translated, "They washed him *after* his navel-string has been cut," and this passage should be expunged from § 487 in Gardiner's *Grammar*.

SETHE.—*Ein neuer Ausdruck für "von . . . bis."*—A passage in the beginning of the letter in the *Tale of Sinuhe* in which the king tells him to return (B. 181/2) should be translated, "Thou hast traversed the lands from *Ḳdm* to *Rtnw*." is a compound preposition followed by , both together meaning "from . . . to."

In a supplement to this number Ludwig Borchardt deals with some Egyptian "antiquities" that he considers modern fakes (*Ägyptische "Altertümer," die ich für neuzeitlich halte*).

L. B. E.

Zeitschrift für Ägyptische Sprache LXVI, Part 2, 1931.

This number of the *Zeitschrift* opens with obituary notices of Eduard Meyer, Wilhelm Spiegelberg, and Luise Klebs.

REISNER, G. A.—*Inscribed Monuments from Gebel Barkal.*—Full texts of the inscriptions found by the expedition are issued. As an introduction, a full list of the buildings excavated is given, arranged as far as possible in chronological order. Seventy-two monuments are listed, but these form but a part of the statues, stelae, etc., indicated by the broken fragments found in the débris all over the site. These monuments fall into four classes according to the conditions in which they were found:—(*a*) Monuments in or near their original position, as placed by the kings whose names they bear; (*b*) Monuments brought from other temples and found in or near the place where the king who had transported them had set them; some of these were found intact; (*c*) Monuments found outside the temple in which they had stood in deposits made during a renovation of the temple; these comprise the ten royal Ethiopian statues and the N.K. statuette; (*d*) Fragments of monuments found scattered in the débris. Assuming that the temple services were abandoned about A.D. 500–600, a large part of the destruction has taken place since that time. Each of the temples was of the N.K., built and endowed by the conquering king of Egypt. The most considerable of these was B. 500 first (B. 503–519), which afterwards became the great temple of Amen.

The restoration and new work done by Piankhy and his successors is reviewed, and the variations in Piankhy's titulary discussed. (Piankhy used his personal name for both cartouche names.) The writer concludes that the red sandstone stela No. 26, found in B. 501, with the figure of the king and his name erased and the figure and name of Piankhy inserted, was made by Piankhy in the first part of his reign, before his journey to Egypt. It was probably set up in B. 501 by Piankhy himself, and was mutilated by his successor and brother-in-law, Shabaka, whilst Piankhy's figure and name were restored by Tirhaqa. The stela remained in B. 501 through all the vicissitudes of the kingdom of Ethiopia and the kingdom of Meroë. At some period the stela was broken near the base and the large upper part was set in socket No. 1 in the same room. There it stood during the last Meroitic occupation of the temple. The temple was abandoned

and the court began to fill with sand. In levelling the ground for building their huts, the local inhabitants, then Christian, overturned the stela on its face and built over it, and there it remained until it was excavated in 1920.

Scharff, Alexander.—*Zur Erklärung und Datierung des "verzierten Stabteils aus vorgeschichtlicher Zeit."*—In Part I of this number of the *Zeitschrift*, Borchardt published an ivory carved with reliefs, which he considered had formed part of a sceptre. Scharff considers that it was an amulet, like the ivories from Hierakonpolis, and dates it as late prehistoric, about S.D. 70.

Glanville, S. R. K.—*Records of a Royal Dockyard of the Time of Tuthmosis III: Papyrus British Museum* 10056.—This article consists of introduction, translation and plates; commentary, conclusion and appendix are to follow. The papyrus is inscribed on both sides with a register from a dockyard, recording the supplies of wood given to a number of chief craftsmen over a period of, roughly, eight months. There can be little doubt that this papyrus came from the same chancellery as another large document of the period containing accounts, namely, the so-called Verso of Papyrus Leningrad 1116 A. and B. The London papyrus appears to be a record from a dockyard connected with Memphis. This place was under the direct control of the Prince Amenhotep who afterwards became Amenhotep II. It can have been nothing less than the chief port of the kingdom—a fact that receives added importance when it is remembered that at the period with which these records are concerned, Thothmes III was laying the foundations of the first Egyptian navy. The origin of this royal dockyard was probably due to the impulse given by Thothmes to sea transport for his military campaign.

Hengstenberg, W. — Nachtrag zu "*Die griechisch-koptischen* ⲙⲟⲩⲗⲟⲛ-*Ostraka.*"—The forty-three additional ostraka dealt with in this supplementary article consist, with one exception, of material in the Coptic Museum at Cairo and in the Munich Seminary of Egyptology. They are now known to come from the neighbourhood of a big Coptic settlement in the extreme west of the Fayum. From the Munich ostraka we learn that some of the grain was sent to the ⲙⲁ-ⲡⲟⲩϩⲉ, presumably a sorting-place for seed-corn, connected with which was a granary, and that only the quantities following the word ⲥⲉⲛⲉ went straight to the mill. In the case of ostraka bearing this word, the division of the grain was presumably decided by the official at the threshing, whilst in those on which it is missing, the decision was presumably left to the official at the sorting-place. But all the grain went "to the mill," for ⲧⲙⲟⲩⲗⲟⲛ had either become a place-name or was a general term for the area in which granary, sorting-place and mill were situated.

Miscellany.

Schäfer, H.—*Isis Regengöttin?*—An entry in a page that presumably belongs to the Rhind Mathematical Papyrus indicates that Isis was a Rain Goddess.

L. B. E.

Bulletin Inst. Française Archéol. Orient. XXXII.

Engelbach, R.—*Transcription of European words into Arabic.*—This is especially for proper names. It is proposed to enrich Arabic with five more vowel forms—eight in all—to supply long and short values, by reversed vowel points; also to supply a short and long *o*, and to borrow Persian variants for tch, zh, p, hard g, and v. Rather than complicate an already awkward alphabet

(needing dot additions for half the letters), would it not be more practical to use the European alphabet for all European names ? Patching a bad case is a burden on the future.

Weill, R.—*Compléments pour " la fin du Moyen Empire."*—In these additional notes the new point of the Hyksos XVth dynasty having ended the XIIth dynasty, and being contemporary with XIIIth, is fairly welcomed as starting a new arrangement. The following new material is discussed :—

1. The great gate at Medamud of Senusert III was a model for another gate by Sekhem-re-khu-taui Amenemhat-Sebekhetep (xiii, 15) ; other works of his are a lintel of Medamud, and at Gebeleyn and Kerma.

2. User-ka-ra Khenzer. The scarabs of Frazer, Cairo, and Cleveland are now supplemented by the block granite apex of the pyramid at Saqqara, and the revision of the Turin papyrus brings Khenzer in as xiii, 17. This has nothing to do with the Khenzer of the Louvre stele, Ra-ne-maot-en-kho.

3. Coffins and Canopics of the family Antef-Sebekemsaf-Thouti, from Winlock's paper of 1915.

4. Queen Sebekemsaf ; this queen, named on an Edfu stele, is probably the wife of Antef, Ra-kheperu-nub.

5. New contemporaries of Queen Nub-khos. This gives no historical detail.

6. Name of Ra-sekhem-shed-taui (xiii R). The *s* prefixed to *shed* in some transcriptions of pap. Abbott, is now read as a seated figure. It also occurs in a judicial papyrus at Vienna.

7. Ra-sekhem-uaz-khou (xiii Q) repeatedly appears at Medamud down to 1930.

8. Ra-sekhem-se-uaz-taui Sebekhetep III (xiii, 20). Many pieces at Medamud.

9. A Senusert after Sebekemsaf. A graffiti on Ra-sekhem-uaz-khou.

10. Neferhetep (xiii, 21) at Byblos, on a relief of Prince Onten, son of Ryn, and therefore in possession of the Delta.

11. Ra-kho-nefer Sebekhetep (IV) (xiii, 23) besides published pieces there is a stele from under a column of Karnak.

12. King Dudumes, Edfu stele, already published.

13. Ra-seuaz-en and Ra-mer-hetep Ay ; no new facts, but suggestions contrary to the Turin Papyrus.

14. Ra-se-onkh-en, Mentu-hetep on a sphinx at Edfu (xiii W).

15. Supposed Ra-neb-nefer is really Ra-neb-kheru, XIth dyn.

16. Hyksos scarabs in Palestine, Weill accepts the Bethpelet discoveries.

17. Family of Ta-aa-Kames-Ahmes. The princess Kames in the tomb of Khabekht is a mistake for Khebt-neferu, daughter of Tehutmes I.

Weill, R.—*Formule énigmatique dans un texte religieuse.*—This is finally rendered " Quelle merveille !—être d'existence, certes !—être d'existence [oh] combien."

Alliot, M.—*Un puits funéraire à Qournet-Mora'i.*—The only matter of interest is a statuette with adoration of Ra by a royal son of Kush, scribe over troops of Amen, fanbearer, Amenhetep.

A pyramidion found apart with adorations of Ra and Osiris by Henket-onkh ; and of Horakhti, Ra and Osiris by Amenemhat.

Leibovitch, M. J.—*Formation probable de quelques signes alphabétiques.*—This recites the various opinions on the Sinaitic signs ; discusses the meaning

of the alphabetic signs, and supplies tables comparing Sinaitic, Phoenician, Byblos, Egyptian, and Ras Shamra writing. No fresh material is quoted.

GRAINDOR, P.—*Inscriptions de la Nécropole de Touna.*—Four ink-written graffiti on tombs, entirely Greek in expression.

CRESWELL, K. A. C.—*La mosquée de 'Amru.*—Translation of the account in *Early Muslim architecture.* The original mosque founded in 641 A.D. was only 30×50 cubits : there were six gates, and the whole was covered in. The ground was covered with pebbles, without matting. Probably palm stems served to support the roof beams. The walls were of brick, plastered, and there was no minaret. Plans of the successive additions to the site in the first two centuries are given. Pocock's plan of 1737 shows that about half the columns were lost in the ruin after Napoleon's invasion. A large recent plan gives the dating of the present walls between 827 and 1798 A.D. The drawings of the ancient parts of the walls show the varieties of structure, further illustrated by twelve plates of photographs.

CHAMPOLLION, J.-F.—*Catalogue du cabinet des antiques de la ville de Grenoble.* —This is of personal interest, and shows the state of archaeology in 1812.

QUARTERLY OF THE DEPT. OF ANTIQUITIES, PALESTINE. II. 1.

LAMBERT, C.—*Egypto-Arabian and Phoenician coins.*—Small silver coins which formed probably a hoard. These are pure Phoenician, copies of Athenian, and other borrowed types, apparently all of Phoenician fabric.

ILIFFE, J. H.—*Third-century portrait busts.*—One which is probably from Askalon is attributed to Salonina, and seems hardly earlier, or Otacilia might be intended.

ILIFFE, J. H.—*Pre-hellenistic Greek pottery in Palestine.*—The best of this is already known to our readers from *Gerar.*

MAYER, L. A.—*Two inscriptions of Baybars.*—The larger tablet is in memory of his visit to Neby Musa in 1269 A.D. The other is from Damra near Gaza referring to a visit there.

HAMILTON, R. W.—*Street levels in the Tyropoeon valley.*—This refers to masonry and street paving entirely of the Roman period.

II, 2, 3. JOHNS, C. N.—*Excavations at Athlit,* 1930–1.—This site has happily provided earlier material than mediaeval, ranging from dyn. XXIIIth to Roman. The Egyptian designs on scarabs are all of Syrian wŏrk, like the exports to Sardinia. The jars are the usual XXIIIrd style, types 47 G, H. Just after these come two bronze knee fibulae, and next a scarab of Psemthek. Blue eye beads are also usual. There is a Cumaean glass vase, and various sherds of Vth cent. painted Greek pottery, but no new types of objects.

BARAMKI, D. C.—*A Byzantine bath at Qulandia.*—Five chambers belong to a first period, with two small ones added later. Two chambers had mosaic floors of plain tesserae.

ILIFFE, J. H.—*A copy of the crouching Aphrodite.*—This is a good copy of the type of Doedalsas, 250 B.C., which was favoured in Syria. It comes from the cloister of statuary at Askalon.

LAMBERT, C.—*Hoard of coins of the Constantinian Period.*—These are all of copper, from the eastern mints ; out of 448, there are only 21 of Rome, and but 2 of the familiar Trèves.

Iliffe, J. H.—*Greek and Latin inscriptions in the Museum.*—The important piece is a milestone of Hadrian, from the Xth mile on the Acre to Tiberias road: re-used under Constantine. A tablet and tiles of the VIth and Xth legion add to the army records.

Mayer, L. A.—*Satura Epigraphica Arabica II. Safad.*—A large cave with loculi is known as the "cave of the daughters of Yakub" from the nuns of the convent of St. James. It continued to be venerated as late as the Arabic renovation in 1412 A.D.

Stephan, S. H.—*Two Turkish inscriptions from the citadel, Jerusalem.*—One of the 18th century, the other of the 19th.

Avi-Yonah, M.—*Mosaic pavements in Palestine.*—Four pages of useful types of patterns are given, with reference numbers. Over a hundred are listed, and the list will be continued, forming an outline of a much-needed corpus.

II, 4. Avi-Yonah, M.—*Mosaic Pavements in Palestine.*—This catalogue is continued from 104 to 181, mostly in Jerusalem, where such works abound owing to the number of churches. When the statistics of the whole list can be compiled we may glean conclusions.

Iliffe, J. H.—*Vaulted tomb at Askalon, III–IV century* A.D.—A small bronze cross of square type points to the later limit, or beyond that.

Excavations in Palestine 1931–2.—This record of work, not reported elsewhere, is helpful. Mr. Manville has opened two rock shelters of prehistoric age. Miss Garrod's party cleared a mousterian cave with several skeletons. Prof. Albright worked in Middle Bronze age at Beit Mirsim. Prof. Badè at Tell en Nasba found a fine agate seal of Jaazaniah, of 2 Kings, xxv, 23. Other results are of Roman age.

III, 1. Hamilton, R. W.—*Excavations in Atrium of Church, Bethelehem.*—A pavement of Constantine and some foundations of Justinian were unearthed, beside complications of mediæval additions.

Iliffe, J. H.—*Rock-cut Tomb at Tarshē hā* (near Acre).—The latest coin was of Arcadius. The stamped glass pendants, with a lion or seven-branched candlestick, are later in style, but continue the tradition of those of 249 A.D. with heads of Philip and Otacilia. The bronze cross has expanded ends, and a circle on each.

Baramki, D. H.—*Early Church at Khirbet 'Asida* (north of Hebron).—The animal figures in the mosaic pavement (about 465 A.D.) have been altered into plants, probably by the iconoclasts.

Mayer, L. A.—*Lead coins of Barquq.*

Mayer, L. A.—Inscriptions at Isdud, A.H. 667 and 877.

Avi-Yonah, M.—*Mosaic Pavements,* Nos. 182–333.

Bull. Soc. Royale de Géographie d'Egypte, XVI, XVII.

Daressy, G.—*Les branches du Nil sous le XVIIIe dynastie.*—This is a detailed study of the ancient condition of the present water-logged salt marshes of the north-east Delta. The district was anciently most fertile, and it was only the sinking of the Delta in Roman times which submerged the coast and formed Lake Menzaleh. On a final map there are traced nine former shore lines of the successive stages of Delta deposits; the details of contour of former coast lines

are given on a large map, from Mendes to Qatieh. The study opens with a collection of the lists, both Greek and hieroglyphic, of the mouths and branches of the Nile. The Defenneh region is considered at length, regarding it is a Ramesside centre on the strength of the account by Herodotus. Zaru-Sele is placed at Qantara. The latter half of the paper is devoted to the region of Lake Menzaleh. The traces of former coast lines are detailed, as seen in raised sandy ridges which were dunes. The ancient branches of the Nile are detailed in their course through this region. The former theories about the sinking of the land are described. The earliest change of level is quoted from Strabo; but the detail in Dion Cassius, that the sea broke in at Mount Casios, is not named. The various later references have often been stated in *Ancient Egypt* (*see* indices).

Egyptian Religion, No. 1, April, 1933. Quarterly 5$ (New York.)

This journal, edited by Dr. Mercer, is the successor to his Journal of the Society of Oriental Research. Unfortunately two-thirds of the first number is occupied by a close description of the cosmogony of Hermopolis by Dr. Roeder, in German. *Mlle. Warboruck* gives a short notice of Bes figures, in connection with a youthful Bes performer in a harvest festival. Undoubtedly that god was alien to Egypt, and not recognised in temple service, but was not necessarily only regarded by the poor. The fine ivory figure of Bes type of Hyksos age from Sedment shows the attention of the wealthy. Bes belongs to the cycle of animal gods on the ivory wands. As suggested here, he was a god of music, and a guard against evil spirits, like David who exorcised Saul. In this aspect his protection was sought at birth. The female Bes figures of Roman age should also be considered.

Battiscombe Gunn rejects the proposal that Ra is intended by this word *R'ah* in Ex. x, 10, translated *evil:* partly because that is a disyllable, and partly because in late usage Ra usually has the article *P* prefixed. *Dr. Mercer* discusses Behdet, concluding that it was the name of Damanhur, later transferred to Edfu.

Mem., l'Institut d'Egypte, XVIII.

Lacustrine Mollusca from the Faiyum depression. By Elinor W. Gardner, 1932, 4to, 139 pp., 8 pls.—This is not only a study of the pleistocene and recent species locally, but also in relation to the movements of species between Egypt and Palestine. The plates, with over four hundred figures in helio-gravure, will be a most useful type-list for identifications. The most interesting general conclusions are that in the pleistocene there was a northerly movement of southern forms even reaching Palestine; also a shift of Palestine forms down to the Fayum. But in late neolithic times the Ethiopian forms died out both in Palestine and the Fayum.

NOTES AND NEWS

The long delay in issuing this part is due to the absence of the Editor in Palestine. As in future he will not be in England except in the middle of summer, it is not practicable for him to be responsible for future numbers.

In this position he is happy to say that Dr. M. A. Murray and Mrs. Mackay offer to continue the management as Joint Editors with him.

Prof. Petrie has resigned the Edwards chair of Egyptology in London University. He will be in Palestine from September to May. He hopes each summer to attend to the labelling and arrangement of the collection, in conjunction with his successor, Mr. S. R. K. Glanville, who will leave the British Museum to become Reader in Egyptology. Dr. Murray will for the present continue her position at University College.

The excavations of the British School of Egyptian Archaeology will be continued by Prof. Petrie and staff at Gaza during the winter. In the intervals between that, and work at University College in summer, his address will be Beaumont House, Jerusalem.

The most unusual discovery of last winter was in the Nubian Archaeological Survey. A king of about the IVth century A.D. was found in his tomb, wearing a large silver crown studded with jewels, holding an iron sword with silver hilt, and with heavy silver bangles, anklets, and toe-rings. A Greek inscription on a gold plate shows a mixture of pagan and Christian cults. Slaves were slaughtered at the burial.

In Cyprus the museum work has disclosed a neolithic settlement, with astonishing pottery, hand-made, covered with white slip bearing patterns in lustrous red or orange. The patterns will show whether this is the class of white and chocolate foreign pottery found at Gaza. The Neolithic houses are preserved in strata, thirteen feet deep. We hope that Mr. P. Dikaios will soon publish his important discoveries.

The diorite quarry has at last been found, far north-west of Abu Simbel, in the desert. Steles of the XIIth dynasty show one period of working. Amethyst also occurs there, so that is probably the source of the fine supply during the XIIth dynasty.

At Lisht a fine tomb of Sen-usert-onkh has been found, with long texts of the pyramid style, almost perfect. The burial chamber is, however, under water.

The Editor is informed that Mr. Hoover's direction of the company working for Sinai turquoise was subsequent to the destruction of monuments by those miners.

The prospects of work for the British School at Gaza are encouraging for next winter. Having finished the five palaces, 3100-1500 B.C., and early buildings adjacent, on the Tell, and dug about an acre of city streets and houses of 2300 B.C., we shall now proceed to work on the intermediate acres where more of the city will be found to lie, and probably the temples. Also on the plain below there are deposits of varying ages, and possibly the governors' tombs. Groups of objects bearing on *Josh.* vii were twice found in this region.

As usual, more than enough students with excellent qualifications have offered for the expedition, and several have been regretfully declined. There await us the 400 Bedawy workers of other years. Only funds are lacking!

A large number of donors have omitted to forward any contribution for the coming season of discoveries. We shall be much hampered unless arrears, and fresh donations, are sent in during the autumn.

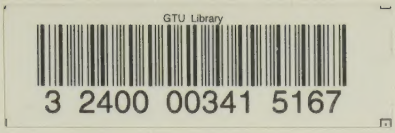
Those who cannot give might adopt the following method of raising support for the digging. Miss Wellesley Reade and Mr. J. Sassoon got together recently a loan exhibit in a little drawing-room, where they held a sale of small antiquities and of our British School gilt embossed blotters, bookmarkers, and illustrated booklets. They realised a sum of more than £5 for the digging, and they, and we, hope that others will do the same.

Anyone who would be good enough to help in this way can send an application addressed Lady Petrie, University College, Gower Street, W.C.1, proposing to fetch small antiquities for exhibition or sale, and the accompanying books and photographs for sale.

These latter can also be had at any time for use as Christmas gifts

	s.	d.
"Vision of the Ages," by Flinders Petrie, 25 pp., 11 pl. of jewellery, frescoes, fortresses, only portrait of Cheops. Cover green, with blue lotus . . .	2	0
Blotter or portfolio in white vellum paper, with embossed and gilt jewellery of Shepherd Kings . . .	2	0
Bookmarker, embossed with same	0	6
Portrait photo, Flinders Petrie at excavation . .	0	6
Twelve stereoscopic photos of digging Bible city . .	3	0
Two additional packets of twelve, 6s., or 3s. each .	6	0

Postage according to weight of parcel ordered.



THREE DAY
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